

Notice of Allowability

Application No.

10/613,191

Examiner

Anthony Dinkins

Applicant(s)

BASCERI ET AL.

Art Unit

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/3/2003.
2. ☒ The allowed claim(s) is/are 1-61.
3. ☒ The drawings filed on 03 July 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

ANTHONY DINKINS
PRIMARY EXAMINER

Anthony Dinkins
Primary Examiner
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Allowabl Subj ct Matter

1. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the allowability in combination with the other claimed features is because nowhere in the prior art is there a method for forming hafnium-containing materials having the second reaction conditions different from the first reaction conditions to grow second hafnium-containing material over the seed material; and utilizing the seed material to induce the desired crystallographic orientation in the second hafnium-containing material. Regarding claim 15, the allowability in combination with the other claimed features is because nowhere in the prior art is there a method for forming hafnium oxide having the first hafnium oxide-containing material to induce the tetragonal crystallographic orientation in the second hafnium oxide-containing material. Regarding claim 31, the allowability in combination with the other claimed features is because nowhere in the prior art is there a second hafnium oxide material directly against the first hafnium oxide-containing material from a second hafnium-containing precursor utilizing a temperature of less than or equal to 250°C. Regarding claim 47, the allowability in combination with the other claimed features is because nowhere in the prior art is there a capacitor construction having an entirety of the dielectric material between the first and second electrodes consisting essentially of crystalline hafnium oxide having a non-monoclinic crystallographic orientation.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Citation of Pertinent Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chew et al. 5,821,556

Arita et al. 6,537,830

Ishaq et al. 4,490,193

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Dinkins whose telephone number is (571) 272-1972. The examiner can normally be reached on 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext. 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anthony Dinkins
Primary Examiner
Art Unit 2831

AD

A handwritten signature in black ink, appearing to read "Anthony Dinkins", with a stylized, cursive script.

**ANTHONY DINKINS
PRIMARY EXAMINER**